

## REMARKS

The Office Action mailed February 23, 2005 has been received and the Examiner's comments carefully reviewed. Claims 1-10 have been cancelled. Claims 11-13 and 16-17 have been amended. Claims 19-22 have been added. No new subject matter has been added. Claims 11-22 are currently pending. For at least the following reasons, Applicants respectfully submit that the pending claims are in condition for allowance.

### A. Cancelled Claims

Claims 1-10 are cancelled. Although Applicants disagree with the Examiner's rejections, Claims 1-10 are cancelled to advance the Application to allowance.

### B. Amendments

Claims 11-13, 16, and 17 are amended to clarify the description of the invention. None of these amendments introduces any new matter.

In particular, Claim 11 is amended to remove "crankcase" to clarify the description of the invention. Claim 12 is amended to replace "density" with "diesel" to clarify the description of the invention. Claim 13 is amended to correct the description of the fuel as "low sulfur diesel fuel." Claims 16 and 17 are amended to further clarify the description of the invention.

### C. Rejections Under 35 U.S.C. § 103

The examiner rejected pending claims 11-14 under 35 U.S.C. § 103(a) as being unpatentable over *Gieseke et al.* (WO 01/47618) in view of *Kashiyama et al.* (US Patent 5,205,265). Pending claim 15 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gieseke et al.* in view of *Kashiyama et al.* and further in view of *Sera* (US Patent 5,726,119). The examiner also rejected pending claims 16-18 under 35 U.S.C. § 103(a) as being unpatentable over *Gieseke et al.* in view of *Kashiyama et al.* and *Sera et al.*

In making an obviousness rejection under 35 U.S.C. § 103(a), "[t]he initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done." MPEP § 2142. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed

invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” MPEP § 2142 (quoting *Ex Parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)). Further, the Federal Circuit has emphasized that “particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.” *In re Kotzab*, 217 F.3d 1365, 1371; 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (emphasis added).

Applicants respectfully submit that there is no suggestion or motivation to combine the references cited by the Examiner. With regard to claims 11-14, there is no suggestion or motivation in *Gieseke* or *Kashiyama*, and with regard to claim 15, there is no suggestion or motivation in *Sera*, to combine filtering blow-by gases and directing the filtered blow-by gases back into the engine, with treating the exhaust stream with a catalyst, to reduce total emissions by 25% or greater compared to an engine that does not filter the blow-by gases and does not treat the exhaust stream with a catalyst. *Gieseke* relates to a system for filtering blow-by gases. *Kashiyama* relates to a very different system for recirculating exhaust gases and blowby gases on a supercharged engine. *Sera* relates to an also very different system for constructing an exhaust gas catalyst. Moreover, neither *Gieseke*, *Sera*, nor *Kashiyama* discloses that the combination of a diesel oxidation catalyst with a blow-by gas filter, where the filtered blow-by gases are directed back into the engine, reduces the total emissions by 25% or greater, an amount that is significant because it is the minimum amount required to satisfy certain retrofit emissions regulations.

With regard to claims 16-18, Applicants respectfully submit that there is no suggestion or motivation in *Kashiyama*, *Sera*, or *Gieseke* to create a kit for reducing engine total emissions from an existing diesel engine, where the kit combines a blow-by gas filter and a catalytic converter. Further, neither *Kashiyama*, *Sera*, nor *Gieseke* contains a suggestion or motivation to install a blow-by filter along with a catalytic converter on an existing turbo-charged diesel engine. Particularly, *Kashiyama* does not relate to a system for application to existing diesel engines, but rather relates to a system for supercharged engines for recirculating exhaust gases and blowby gases. Further, *Sera* does not relate to a system for application to existing diesel engines, but rather relates to a catalyst structure and a method of forming a catalyst structure.

D. New Claims

Applicants submit new claims 19-22 to more particularly claim the subject matter disclosed. These claims do not add new matter and are supported by the written description in the specification. See, for example, page 33, lines 12-15 and pages 34-42 for a discussion of applicable retrofit engines. See also, for example, the discussion on experimental testing from page 29, line 3 to page 42, line 7. In particular, see for example page 29, lines 10-21 for a discussion of the step of determining the baseline engine emissions, which are determined by measuring the untreated crankcase blow-by gases and the untreated tailpipe gases. See also for example page 29, lines 8-9 for a discussion of defining emissions as the sum of exhaust (tailpipe) and crankcase blow-by emissions. See for example page 31-32, tables 1-3 for examples where the tailpipe particulate matter emissions reduction efficacy percentage is calculated by subtracting the treated tailpipe emissions from the sum of the baseline crankcase emissions and baseline tailpipe emissions, dividing by the sum of the baseline crankcase emissions and baseline tailpipe emissions, and converting to a percentage. See also for example page 32 for a discussion of the California Air Resources Board retrofit particulate matter reduction requirements.

SUMMARY


It is respectfully submitted that each of the presently pending claims (claims 11-22) is in condition for allowance and notification to that effect is requested. The Examiner is invited to contact Applicants' representative at the below-listed telephone number if it is believed that prosecution of this application may be assisted thereby.

Although certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentably distinct. Applicants reserve the right to raise these arguments in the future.

Respectfully submitted,

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Date: 23 May 2005

  
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